



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,143	01/30/2004	Jai N. Subrahmanyam	K35A1290	9536

35219 7590 04/06/2006

WESTERN DIGITAL TECHNOLOGIES, INC.
ATTN: SANDRA GENUA
20511 LAKE FOREST DR.
E-118G
LAKE FOREST, CA 92630

EXAMINER

KAPADIA, VARSHA A

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/769,143	Applicant(s) SUBRAHMANYAM ET AL.	
	Examiner Varsha A. Kapadia	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This office action is responsive to the amendment filed on January 20, 2006.

Rejection Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al (6,115,198) in view of Cloke et al (6,487,032).

With regards to claims 1 and 12, Reed et al discloses a disk drive 1-2 and disclosure thereof) comprising a media having tracks identified by binary codewords (see figs. 1a-1c, 4 disclosure thereof and abstract), wherein each track codeword for a particular track within contiguous band of tracks differ from the codeword for an adjacent track within a contiguous band by a defined number N of bits, and differs from a track codeword for a non adjacent track within the band of tracks by at least the defined number of N bits (see col.6 line 63 to col.7 lines 57 and col.8 lines 18-36; wherein Reed et al also suggest that when defined number of bit (hamming distance) is greater at least two bit errors can be corrected).

However, Reed et al fails to clearly define that the number N of bits is greater than 4 as claimed.

Cloke et al however, discloses that when hamming distance is greater than 4 at least two bit errors can be corrected (see col.36 lines 22-49).

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify the disk drive disclosed by Reed et al with above teachings from Cloke et al in order to provide track codeword of a particular track differ from the codeword of the

Art Unit: 2627

adjacent track by 4 or more bits such that two bit errors can be corrected and hence to increase the reliability.

With regards to claims 2-5, Reed et al/ Cloke et al discloses the claimed invention except for defining exact number of bits in the codeword and defined number N of bits is 7 or 5 and band of tracks comprises 2048 tracks as specified by the applicant. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to define the specific size of codeword, and the distance, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With regards to claims 6-11, the method steps recited in claims 6-11 corresponds to the limitations recited in the apparatus claims 1-5 and 12, respectively. Therefore, the rejection applied to the apparatus claims 1-5 and 12 above in this office action is also applied to the method claims 6-11 for the same reasons of obviousness.

Response To Remarks

Applicant's arguments filed on 1/20/06 have been fully considered but they are not persuasive. Applicant argue that neither the Reed nor Cloke patents teach or suggest "each track codeword recited in claim 1 allows correction of at least two bit errors AND has particular bit differences with track codewords for adjacent and nonadjacent tracks." Examiner respectfully disagree because as described above in this office action Reed et al, in fig 4 and col.7, lines 15+, disclose particular bit differences with track codewords for adjacent and nonadjacent tracks. Reed et al further disclose motivation that when the defined number of bit (hamming distance) is greater, at least two bit errors can be corrected (see col.8 lines 29-36). Cloke et al further shows

Art Unit: 2627

that the greater hamming distance is used to correct more than single bit errors (see col.36 lines 43-49).

In response to applicant's argument that "the Cloke patent teaches that the "optional redundant TRK ID 79, when present, improves track detection reliability and reduces the probability that track ID errors with occurs during track-seeking operations....""Thus, Cloke and Reed patents cannot render claims obvious, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the above applied rejections Cloke is merely relied upon to show that the greater hamming distance is used to correct more than single bit errors. Therefore, the rejection applied to claims 1-12 is considered proper.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2627

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Varsha A. Kapadia whose telephone number is (571) 272-7557. The examiner can normally be reached on Mon Tue and Thurs. from 6:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571 272 4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VK


ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER